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COMMON MOSSES ACCORDING TO HABITAT. A NON-TECHNICAL DESCRIPTION BASED ON MACROSCOPICAL CHARACTERS

DESCRIPTION OF PLEUROCARPUS SPECIES.

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(Continued from April TORREYA)

V. ON STONES OR ROCKS

C. CAPSULE CYLINDRIC, HORIZONTAL OR INCLINED.

D.—Costate.

E.—Serrate.

F.—Acute or acuminate.

Amblystegium.

DD.—Ecostate.

E.—Entire or serrate.

F.—Acute or acuminate.

Hypnum.

Amblystegiella adnata.

CC.—CAPSULE CYLINDRIC, ERECT OR SUB-ERECT.

D.—Costate.

E.—Serrate.

F.—Acute.

Anomodon attenuatus.

Climacium.

CCC.—CAPSULE IMMERSED OR SLIGHTLY EXsertED.

D.—Ecostate or costa faint.

E.—Entire.

F.—Acute.

Neckera.

CCCC.—CAPSULE OVOID.

D.—Costate.

E.—Serrate.

F.—Acuminate.

Brachythecium.

Bryhnia Novae Angliae.

Cirriphyllum Boscii.

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AMBLYSTEGIELLA.

A. adnata.

This form is common on stones and about the base of trees. The species closely resembles *Hypnum* from which it differs in that it is usually ecostate. The leaves are mostly entire, acute or acuminate; they are erect spreading, not curved, oblong ovate, concave. Capsules suberect. Plants fine and thread-like, resembling *Hypnum reptile*. They are dark green to yellow-green. Mature in summer.

AMBLYSTEGIUM.

The genus *Amblystegium* consists mostly of plants of minute size. They live in deep moist woods and are exceedingly common. Capsules are suberect or cernuous. The seta is smooth. Costa single, very rarely ecostate.

A. fluviatile.

This plant is of medium size and is to be found floating in brooks. It is dark green with long branches, the branchlets are few and suberect. Leaves are entire, remote, ovate with blunt apex, sometimes oblong lanceolate, concave, costa not excurrent; somewhat spirally imbricated. Capsule very long and suberect, constricted below the mouth. Tufts are flat, soft and prostrate, leafless at base. Mature in summer.

A. irriguum.

This species is also aquatic. Plants very small, hard and gritty, very black. Leaves long acuminate, rigid with acute apex, decurrent, ovate. Capsule cernuous subcylindric, seta long. Plants dark black green, stem thick, prostrate, often pinnate, branches erect or procumbent. Mature in summer.

A. riparium.

Plants creeping or floating, forming large loose tufts of dirty yellow green. Leaves with long slender acumen, subsecund, shortly decurrent. Capsule oblong cylindric, inclined. Operculum large orange. Mature in spring.

A. varium.

A very varied form, with a varied habitat. It is found growing on moist soil, on stones, trees. Leaves are long acuminate with long slender acumen; strongly costate. Seta long. Mature in spring.

ANOMODON.

Plants larger than *Leskea*. Primary stems stoloniferous, leafless. Secondary stems leafy and erect. Capsule erect, symmetric, oblong, cylindric, brown. Leaves are opaque with a pellucid costa, distant, small, ovate or lanceolate. Paraphyllia lacking.

A. attenuatus.

Plants forming wide loose tufts mixed with many filiform or flagelliform branches or stolons. Leaves are apiculate, subsecund, decurrent, papillose. Seta is long and twisted. On rocks or base of trees. Mature in autumn.

A. rostratus.

Leaves imbricate with ovate base which tapers to a lanceolate upper part. Apex long-apiculate. Costa strong, vanishing below the apex. Capsule ovoid, seta short. About the roots of trees and about moist rocks. Mature in autumn.

A. tristis.

Leaves imbricate when dry, squarrose when moist, apiculate. Costate to the middle, costa narrow. Fruit has never been reported.

BRACHYTHECIUM.

The macroscopic determination of this genus lies mainly in the capsule, which is short ovoid, and rather thick, of a rich brown color. The capsule is with few exceptions horizontal or inclined. The leaves are costate more than half way. Plants usually large, forming loose mats. Branching irregular. The seta may be smooth or rough.

B. acuminatum.

This form has a rather varied habitat, and is found on stones and rock as well as on earth in deep woods. The capsule is almost erect, seta smooth. The leaves are costate, serrate, acuminate, striate, concave. Costa ending about the middle. Plants dark green or glossy, of medium size. Mature in autumn.

B. cyrtophyllum.

Seta smooth as in the above, leaves subjulaceous, slender. Branch leaves ovate, concave, margin reflexed. Plants slender, caespitose, glossy to dark green. Mature in autumn or spring.

B. oxycladon.

Capsule suberect. Leaves plicate. Plants yellow, shining green.

B. plumosum.

One of our most common Brachytheciums. Found on soil, stones, rock. Leaves costate, serrate acuminate, leaves not plicate, ovate lanceolate, concave, decurrent, closely imbricated. Capsule light brown when young, black when old. Seta rough above, smooth below. Plants forming large dense mats, robust, yellow green, densely foliate. Stem prostrate. Branches erect or curved. Mature in winter.

B. rivulare.

Aquatic or subaquatic, on stones in brooks. Leaves costate, serrate, acuminate, large open ovate, costate almost to the middle. Capsule cernuous. Seta rough, long. Mats large, robust. Stems woody, prostrate, dendroid in appearance. Mature in autumn.

B. salebrosum.

Leaves costate serrate, acuminate, margins reflexed. Stem leaves ovate lanceolate, plicate, close erect, imbricate when dry. Capsule inclined to horizontal, cernuous, seta smooth. Plants form large yellow-green mats. Stems pinnately branching. On stones, roots or trunks of trees. Mature in autumn or winter.

BRYHНИЯ.

B. Novae-Angliae.

Closely related to *Brachythecium*. Leaves costate, serrate, acuminate, decurrent, concave. *Apex twisted*. Branches subjulaceous, erect. Costate to the middle. Operculum conic to short rostrate. Seta rough. Plants rigid.

CALLIERGON.

C. cordifolium.

Leaves distant, cordate, ovate, obtuse, decurrent, entire. Costate to

near the apex, often cucullate at the apex. Capsule oblong cylindrical horizontal. Seta long. Tufts tall, loose, green, erect or prostrate. Habitat-swamps, brooks, wet meadows. Mature in summer.

C. Schreberi.

Leaves close, imbricated, slightly plicate oval-oblong, very concave, entire. Costa short, double or faint. Apex round or obtuse, incurved. Seta long. Capsule horizontal. Stems woody and erect and red. Tufts large, glossy or yellow green. Found in shaded woods on humus, logs or ground. Mature in autumn.

CAMPYLUM.

Campylum species are characterized by *strongly squarrose* leaves. Branching irregular. Leaves lanceolate, long-acuminate, decurrent, costate or ecostate. Capsule horizontal.

C. chrysophyllum.

Stems prostrate with erect or sub-erect branches, which are pinnate. Leaves strongly costate, faintly secund, entire or slightly denticulate at base. On ground or rocks. Mature in summer.

C. hispidulum.

Ecostate or costa short and double. Leaves close, squarrose, subsecund, base cordate ovate. Apex very long acuminate. Plants slender. Branches pinnate, erect. Tufts dense, yellow-green. Found about the roots of trees and on stones. Mature in summer.

CIRRIPHYLLUM.

C. Boscii.

Plants julaceous, large robust, bright yellow-green. Leaves costate, serrate acuminate, imbricate, apex twisted to a filiform point, concave, oblong ovate, costate to middle or beyond. Mature in autumn.

CLIMACIUM.

This genus is characterized by its exceedingly large size. Their general habit is tree-like. Leaves acute, serrate, oblong lanceolate, usually decurrent. Leaves often variable. Capsules clustered, oblong-cylindric, erect. Seta long, smooth. The stem underground. Habitat, wet places, swamps, in deep shady woods. Mature in autumn.

It is difficult to distinguish species without a microscope. Our two most common forms, are *C. Americanum*, with a habit like a miniature tree; and *C. Kindbergii*, which grows in a looser, more tangled mass.

CRATONEURON.

C. filicinum.

Plants medium size, pinnately branched, with numerous paraphyllia and dense radicals. Leaves cordate, falcate secund, decurrent, plicate. Operculum conic. Seta long. Mature in spring or summer.

CTENIDIUM *molluscum.* See *Hypnum molluscum.*

DICHELYMA.

D. capillaceum.

This genus is strictly aquatic, leaves long, narrow, floating. Leaves costate, entire, acuminate. Stem often denuded of leaves. Branches curved at the ends, often twisting about their hosts in the water. Mature in summer. *Dichelyma* resembles *Fontinalis* but differs in that *Dichelyma* is costate, *Fontinalis* is not.

DREPANOCLADUS.

Species impossible to distinguish with a hand lens only. Leaves serrate, acuminate, long falcate secund, almost circinate, plicate. Capsule inclined to horizontal. Tufts pale green, never red or purple, distinctly pinnate, rarely erect, slender. Branches hooked. No paraphyllia. In wet places, not submerged. Mature in spring or summer.

ENTODON.

The genus *Entodon* only can be described. In color, the plants are glossy yellow green. The habitat ranges from woods, soil or about the base of trees. Leaves are turgid, concave, ecostate or costa very faint, entire or slightly serrate at tip, sometimes flattened. Capsule erect. Mature in autumn or winter. The most common form is *Entodon seductrix* with stems and branches julaceous.

EURHYNCHUM.

This genus closely resembles *Brachythecium*. The cell structure, which is one of the differences, can be seen with a microscope. The operculum also varies, for it is mostly very long beaked.

E. hians.

A rather common plant. Soil-loving. Leaves serrate acute to acuminate. Costate about one third of leaf. Seta rough. Capsule horizontal. A depressed habit. Yellow green. Leaves loose, cordate ovate. Mature in autumn.

E. rusciforme.

An aquatic plant, almost black green. Large and robust. Leaves open ovate, acute to acuminate. Capsule cernuous, neck short and distinct. Seta smooth. Mats caespitose, floating or pendent. Stem woody and prostrate. Found in brooks. Mature in summer or autumn.

FONTINALIS.

Closely resembles *Dichelyma*, which is costate, while *Fontinalis* is ecostate. Capsule mostly immersed. Plants long, slender, floating, branched, dark green. Leaves distant, flat, sometimes concave. Calyptra conical. Mature in summer.

HETEROPHYLLUM *Haldanianum*. See *Hypnum Haldanianum*.

HYGROHYPNUM *ochraceum*. See *Hypnum ochraceum*.

HYLOCOMIUM.

In this genus, recognition of species again depends upon the microscope. The genus is wood-inhabiting, on humus, logs or ground. Leaves costate, serrate, acuminate. Costa single or double, operculum conic to short rostrate. Leaves often bipinnate, plicate, complanately branched or irregularly branched. Costa is never percurrent. Paraphyllia present or lacking. Leaves squarrose or spreading, secund, ovate. Capsule ovoid, short, thick, unsymmetric. Seta smooth. Plants form wide loose patches. They are large and robust. Mature in spring.

HYPNUM.

This is the largest group of mosses, and the form most often collected. They are difficult to describe because of their great variation in habit and structure. The leaves are sometimes pinnate, sometimes they are secund. Costa is short or double or wanting. In some species the leaves are falcate

or circinate. Capsule mostly curved or inclined. Seta smooth. Plants form prostrate, often loose, mats.

HYPNUM (*Ptilium*) *Crista-castrensis*.

Leaves serrate, acuminate, entire at base. Capsule large, horizontal, curved. Plants large, robust, bright yellow-green, plume-like. One of our most attractive mosses. Leaves complanate. Stems erect or ascending, recurved at apex. Mature in summer. Found in rich moist places, in ravines and moist woods.

HYPNUM (*Heterophyllum*) *Haldanianum*.

A common form in deep woods, forming loose mats on decaying wood or humus. Dark yellow green. Stems long. Branchlets distant. Leaves faintly costate, acuminate, imbricate, concave, oblong ovate. Capsule suberect or inclined.

HYPNUM (*Stereodon*) *imponens*.

Leaves strongly falcate secund, pinnate, plumose, ovate lanceolate. Costa short double or lacking. Leaves imbricate. Capsule suberect or inclined. Plants prostrate, forming densely interwoven mats of a golden green color. The golden color of the basal cells can be seen with a hand lens. Mature in autumn or winter.

HYPNUM (*Clenidium*) *molluscum*.

Leaves serrate, acuminate, pinnate, plumose, golden green, falcate secund, narrowly lanceolate, auriculate at base, decurrent. Costa short double or lacking. Leaves densely imbricate, undulate at apex. Capsule subhorizontal, thick, short. Seta thick. Plants form wide feathery tufts. Mature in spring.

HYPNUM (*Stereodon*) *Patientiae*.

Leaves ecostate or costa very faint, entire, acuminate, falcate secund. Apex serrulate, not cordate, decurrent not crowded, often imbricate. Capsule plicate. Plants form large yellow-green tufts; those in water are black. Plants erect or irregularly branched, often prostrate with ascending branches which are often hooked. Mature in spring.

HYPNUM (*Raphidoslegium*) *recurvans*.

Capsule cylindrical inclined. Leaves acuminate, falcate secund, ovate lanceolate, serrate above, close imbricate. Capsule unsymmetric. Operculum strong beaked. Stems prostrate. Plants yellow green, glossy. Found at the base of trees and on old logs. Mature in winter.

HYPNUM (*Stereodon*) *reptile*.

Leaves strongly falcate secund with bristly points, ovate lanceolate, margin revolute. Capsule subcylindrical, suberect. Plants small dark green, pinnately branched, appearing julaceous. Mature in summer.

LEUCODON.

This genus is found on trees above the base. Leaves ecostate, almost entire, slightly serrate at apex, acute. Calyptra cucullate, operculum conic to short rostrate. Capsule ovoid to subovoid, erect. Leaves concave. Margin recurved, spreading when moist, decurrent, julaceous when dry. Main stems slender, filiform, erect, stoloniferous, densely leaved. Mature in winter. The two most common forms are *L. julaceus* and *L. sciuroides*. These differ in that, in *julaceus* the leaves are short acuminate and ovate, while in *sciuroides* they are acuminate.

LESKEA.

L. obscura.

Found at the base of trees or on rotten wood, or more rarely on stones. Leaves costate, entire, acute, ovate or ovate lanceolate, asymmetric, round, obtuse, costa ends below the apex. Leaves concave recurved, appressed when dry, spreading when moist. Capsule erect straight. Plants small to medium, dark green. Mature in summer.

NECKERA.

N. pennata.

Capsule more or less immersed, ovoid. Calyptra cucullate. Operculum conic to short rostrate. Leaves ecostate or costa short and faint. Margin entire, transversely undulate, ovate lanceolate, acute or acuminate slightly serrate at apex. Large plants with slender stems. Pinnately branching, usually complanate foliate, sometimes flagellate, bright yellow-green. Mature in spring.

PLAGIOTHECIUM.

The habit of this genus is characteristic. The leaves present a flattened or complanate appearance. The habitat varies, they are to be found on rocks, soil, or on trees. They vary also in size from small plants to those of medium size. Capsules ovoid to cylindrical. Leaves costate, mostly entire, acuminate, ovate or oblong, lanceolate, thin. Capsule slender or suberect. Seta smooth. Stems irregularly branched, not pinnate, stoloniferous, loosely tufted yellow green.

Three forms most often met are *P. sylvaticum*, *striatellum*, *denticulatum*. In *striatellum* the plants are not complanate, the leaves are squarrose spreading. In *sylvaticum*, the leaves shrink when dry, in *denticulatum* the leaves are asymmetric.

PTILIUM *Crista-castrensis*. See *Hypnum Crista-castrensis*.

PYLAISIA.

P. Schimperii.

A plant found on trees or fallen logs. Capsule emergent. Leaves ecostate or costa short or double. Margin entire. Apex long acuminate, falcate, secund, ovate-lanceolate, concave, slightly serrate at tip. Leaves close. Capsule cylindric, erect, branches slender. Mats thin and dark. Medium size. Mature in autumn.

RAPHILOSTEGIUM.

Plants of very slender appearance. Mats thin and light green. *R. adnatum* is found on trees which are living, the other forms on stones. The leaves of this genus are ecostate or costa faint. They are scarcely secund, almost entire. Capsule not large, ovoid, inclined or erect, unsymmetric. Branches loose. Mature in summer or autumn.

SCORPIDIUM.

S. scorpioides.

A large bog moss, very robust, brown green in color, forming loose mats. Leaves are crowded, imbricate, secund, falcate, ovate and concave. costate or ecostate. Capsule inclined, curved. Mature in summer.

SEMATOPHYLLUM *recurvans*. See *Hypnum recurvans*.

STEREODON *imponens*. See *Hypnum imponens*.

Patentiae. See *Hypnum Patentiae*.

reptile. See *Hypnum reptile*.

THELIA.

T. asprella.

Plants of light green color. Habitat, the base of trees. Capsule ovate cylindrical, erect. Leaves ciliate all around, julaceous about the stems. Costate half way. Leaves ovate running into an abrupt point. Plants not pinnate.

T. Lescurii.

Strongly resembles the last. Habitat, usually sandy soil. Color white-green. Leaves with shorter acumen. Mature in autumn.

THUIDIUM.

The common name of this moss truly describes it. It is called the fern moss because of its very regular pinnae. The paraphyllia variations which determine the species cannot be determined with a hand lens. The capsule is cylindrical, horizontal or inclined. Plants large and fern like. Principal stems are rooting, secondary stems pinnate branching. Leaves costate, serrate acuminate, decurrent. Stem leaves cordate triangular. Branch leaves smaller. Seta long. Mature in summer or autumn or winter.

T. delicatulum.

A common form, bipinnately branching. Stem leaves erect when moist. Found on moist decaying logs or humus.

T. paludosum.

Found in moist fields or swampy places. Leaves open erect, cordate at base.

T. scitum.

Found on the base of trees in thin mats, appressed, light or yellow-green in color. Very pinnate. Leaves cordate, short acuminate, concave with a pellucid costa.

MATURITY TABLE

ACROCARPUS

SPRING

Aulaconnium heterostichum
Barbula
Bartramia pomiformis
Bryum argenteum
caespiticium
Ceratodon purpureus
Ditrichum pallidum
Funaria hygrometrica
Hedwigia albicans
Mnium
Orthotrichum anomalum
strangulatum
Phascum cuspidatum
Philonotis fontana
Pohlia nutans
Polytrichum commune
Ohioense

Pottia truncatula
Ptychomitrium incurvum
Rhacomitrium aciculare
Tortella caespitosa
Ulota americana
crispa
Weisia viridula

SUMMER

Aulaconnium palustre
Bryum bimum
Dicranum scoparium
Ditrichum pallidum
Leptobryum pyriforme
Leucobryum glaucum
Sphagnum
Tortella tortuosa
Webera sessilis

AUTUMN

Buxbaumia aphylla
Catharinaea angustata
undulata
Dicranella heteromalla
Dicranum scoparium
Ditrichum tortile
Georgia pellucida
Grimmia

Physcomitrium turbinatum
Pogonatum brevicaulis

WINTER

Dicranella heteromalla
Fissidens incurvus
Grimmia
Ptychomitrium incurvum

PLEUROCARPUS

SPRING

Amblystegium riparium
Brachythecium cyrtophyllum
Calliergon cordifolium
Cratoneuron
Drepanocladus
Hygrohypnum ochraceum
Hylocomium
Hypnum (Ctenidium) molluscum
Hypnum (Stereodon) Patientiae
Neckera pennata
Plagiothecium striatellum
sylvaticum

Scorpidium scorpioides
Thuidium scitum

AUTUMN

SUMMER

Amblystegiella adnata
Amblystegium fluviatile
irriguum
Campyllum chrysophyllum
hispidulum
Dichelyma capillaceum
Drepanocladus
Eurhynchium rusciforme
Fontinalis
Hygrohypnum ochraceum
Hypnum (Ptilium) Crista-castrensis
Hypnum (Ctenidium) molluscum
Hypnum (Stereodon) reptile
Leskea obscura
Plagiothecium denticulatum
Raphidostegium

Anomodon attenuatus
rostratus
Brachythecium acuminatum
rivulare

Calliergon Schreberi
Cirriphyllum Boscii
Climacium americanum
Kindbergii

Entodon
Eurhynchium hians
rusciforme

Hypnum Haldanianum
Hypnum (Stereodon) imponens
Pylaisia Schimperii
Raphidostegium
Thuidium scitum

WINTER

Anomodon attenuatus
Brachythecium plumosum
Hypnum Haldanianum
recurvans
Leucodon
Thuidium delicatulum
paludosum
scitum

HABITAT TABLE

ACROCARPUS

I. Woods: on humus, logs, ground

Aulacomnium heterostichum
Barbula
Bartramia pomiformis
Bryum bimum
caespiticium
Buxbaumia aphylla
Catharinaea angustata
undulata
Ceratodon purpureus
Dicranella heteromalla
Dicranum
Ditrichum pallidum
tortile
Fissidens
Funaria hygrometrica

Georgia pellucida
Leptobryum pyriforme
Leucobryum glaucum
Mnium
Phascum cuspidatum
Physcomitrium turbinatum
Pohlia nutans
Pogonatum brevicaulis
Polytrichum commune
ohiense
Pollia truncatula
Tortella caespitosa
Tortula
Webera sessilis
Weisia viridula

II. On trees

<i>Drummondia clavellata</i>	<i>Tortella caespitosa</i>
<i>Orthotrichum strangulatum</i>	<i>Ulota crispa</i>

III. Aquatic or sub-aquatic

<i>Aulacomnium palustre</i>	<i>Philonotis fontana</i>
<i>Fissidens Julianus</i>	<i>Sphagnum</i>

IV. Open fields, pastures, roadways, waste places

<i>Bartramia pomiformis</i>	<i>Ditrichum pallidum</i>
<i>Bryum argenteum</i>	<i>Funaria hygrometrica</i>
<i>caespiticium</i>	<i>Mnium</i>
<i>Catharinaea angustata</i>	<i>Phascum cuspidatum</i>
<i>undulata</i>	<i>Polytrichum commune</i>
<i>Ceratodon purpureus</i>	<i>Pogonatum brevicaulis</i>
<i>Dicranella heteromalla</i>	<i>Weisia viridula</i>

V. On stones or rocks

<i>Barbula</i>	<i>Orthotrichum anomalum</i>
<i>Bryum argenteum</i>	<i>Polytrichum</i>
<i>caespiticium</i>	<i>Ptycomitrium incurvum</i>
<i>Dicranum</i>	<i>Rhacomitrium aciculare</i>
<i>Fissidens incurvus</i>	<i>Tortella tortuosa</i>
<i>Grimmia</i>	<i>Tortula muralis</i>
<i>Hedwigia albicans</i>	<i>Ulota Americana</i>
<i>Leptobryum pyriforme</i>	<i>Weisia viridula</i>
<i>Mnium</i>	

PLEUROCARPUS.

I. Woods: on humus, logs or ground

<i>Amblystegium</i>	<i>Eurhynchium hians</i>
<i>Anomodon rostratus</i>	<i>serrulatum</i>
<i>Brachythecium acuminatum</i>	<i>Hypnum (Ptilium) Crista-castrensis</i>
<i>cyrtophyllum</i>	<i>Hypnum Haldanianum</i>
<i>oxycladon</i>	<i>Hypnum (Stereodon) imponens</i>
<i>salebrosus</i>	<i>Hypnum (Ctenidium) molluscum</i>
<i>Bryhnia Novae Angliae</i>	<i>Hypnum (Stereodon) Patientiae</i>
<i>Calliergon (Hypnum) Schreberi</i>	<i>Hypnum recurvans</i>
<i>Campylium chrysophyllum</i>	<i>Hypnum (Stereodon) reptile</i>
<i>hispidulum</i>	<i>Hylocomium</i>
<i>Cirriphyllum Boscii</i>	<i>Plagiothecium denticulatum</i>
<i>Climacium americanum</i>	<i>sylvaticum</i>
<i>Kindbergii</i>	<i>Rhyncostegium serrulatum</i>
<i>Cratoneuron</i>	<i>Thuidium delicatulum</i>
<i>Entodon</i>	<i>paludosum</i>

II. On trees

<i>Amblystegiella adnata</i>	<i>Hypnum recurvans</i>
<i>Amblystegium</i>	<i>Hypnum (Stereodon) reptile</i>
<i>Anomodon attenuatus</i>	<i>Leskea obscura</i>
<i>tristis</i>	<i>Leucodon</i>
<i>Brachythecium acuminatum</i>	<i>Neckera pennata</i>
<i>cyrtophyllum</i>	<i>Plagiothecium</i>
<i>salebrosus</i>	<i>Pylaisia Schimperi</i>
<i>Campylium hispidulum</i>	<i>Raphidostegium</i>
<i>Entodon</i>	<i>Thelia asprella</i>
<i>Hypnum (Stereodon) imponens</i>	<i>Thuidium scitum</i>

III. Aquatic or sub-aquatic

<i>Amblystegium fluviatile</i>	<i>Climacium</i>
<i>irriguum</i>	<i>Dichelyma capillaceum</i>
<i>riparium</i>	<i>Drepanocladus</i>
<i>Brachythecium plumosum</i>	<i>Eurhynchium rusciforme</i>
<i>rivulare</i>	<i>Fontinalis</i>
<i>Calliergon cordifolium</i>	<i>Hygrohypnum ochraceum</i>
<i>Schreberi</i>	<i>Plagiothecium</i>
<i>Campyllum chrysophyllum</i>	<i>Scorpidium</i>
<i>hispidulum</i>	

IV. Open fields, roadways, waste places

<i>Calliergon Schreberi</i>	<i>Hypnum</i>
<i>Cirriphyllum Boscii</i>	<i>Thelia asprella</i>

V. On stones

<i>Amblystegiella adnata</i>	<i>Bryhnia Novae-Angliae</i>
<i>Amblystegium</i>	<i>Campyllum chrysophyllum</i>
<i>Anomodon rostratus</i>	<i>Climacium americanum</i>
<i>Brachythecium plumosum</i>	<i>Kindbergii</i>
<i>salebrosum</i>	<i>Neckera pennata</i>

GLOSSARY

<i>Acrocarpus</i> : applied to a group of mosses having the sporophyte an outgrowth from the terminal part of the stem.	<i>Gemmae</i> : bud-like bodies which give rise asexually to new plants.
<i>Acuminate</i> : long pointed.	<i>Gibbous</i> : swollen on one side.
<i>Acule</i> : abruptly pointed.	<i>Glaucous</i> : covered with a bloom.
<i>Antheridia</i> : male organs.	<i>Habitat</i> : place or situation.
<i>Apical</i> : pertaining to the apex.	<i>Hispid</i> : covered with stiff hairs.
<i>Apiculate</i> : an abrupt point.	<i>Hyaline</i> : transparent.
<i>Archegonia</i> : female organ.	<i>Imbricated</i> : overlapping, as the tiles of a roof.
<i>Calyptra</i> : the hood which covers capsule and operculum.	<i>Immersed</i> : covered or concealed in leaves.
<i>Capsule</i> : fruit or spore case.	<i>Involute</i> : rolled.
<i>Cernuous</i> : nodding.	<i>Julaceous</i> : catkin-like.
<i>Caespitose</i> : forming close mats.	<i>Lanceolate</i> : lance-shaped.
<i>Complanate</i> : flattened; lying in one plane.	<i>Lid</i> : the operculum.
<i>Cordate</i> : heart-shaped.	<i>Mitriform</i> : mitre-shaped.
<i>Costa</i> : the midrib of the leaf.	<i>Mucro</i> : an abrupt short point continuous with the costa.
<i>Cucullate</i> : hood-shaped; conical and cleft to one side; applied to the calyptra.	<i>Mucronate</i> : tipped with a mucro.
<i>Decurrent</i> : applied to the leaf if continued down the stem.	<i>Ovate</i> : shaped like an egg.
<i>Dendroid</i> : appearing tree-like.	<i>Papillate</i> : covered with small protuberances.
<i>Diagnostic</i> : peculiar to.	<i>Paraphyllia</i> : leaf-like or filiform appendages.
<i>Distichous</i> : in two opposite rows.	<i>Pellucid</i> : thin; hyaline.
<i>Ecostate</i> : without costa or mid-rib.	<i>Percurrent</i> : applied to the costa when it extends through the entire leaf.
<i>Excurrent</i> : extending beyond the apex of the leaf.	<i>Pleurocarpus</i> : applied to a group of mosses having the sporophyte an outgrowth from the lateral branch.
<i>Exserted</i> : protruding beyond.	<i>Plicate</i> : folded lengthwise.
<i>Falcate</i> : scythe-shaped.	<i>Pseudopodia</i> : leafless branches bearing asexual organs.
<i>Fascicled</i> : clustered.	<i>Pyriform</i> : pear-shaped.
<i>Filiform</i> : thread-like.	

Radicals: ends or the rootlets.
Revolute: rolled.
Rostellate: short beaked.
Rostrate: beaked.
Secund: turned to one side.
Serrate: toothed.
Sessile: close-sitting; stalkless.
Seta: the pedicel of the capsule.
Spinulose: thorny.
Spores: bodies within the capsule which upon germination give rise to new plants.
Squarrose: spreading open widely.

Stoloniferous: stems which run parallel to the substratum.
Striate: marked with fine lines or furrows.
Subulate: awl-shaped.
Sulcate: longitudinally grooved.
Terete: awl-shaped.
Tomentose: covered with wool-like hairs.
Turbinate: top-shaped.
Undulate: wavy.
Ventricose: enlarged on one side.
Verrucose: covered with wart-like projections.
Verticillate: whorled.

LIST OF SPECIES DESCRIBED

- Amblystegiella adnata*
Amblystegium fluviatile
 irriguum
 riparium
Anomodon attenuatus
 rostratus
 tristis
Aulacomnium heterostichum
 palustre
Barbula
Bartramia pomiformis
Brachythecium acuminatum
 cyrtophyllum
 oxycladon
 plumosum
 rivulare
 salebrosum
Bryhnia Novae Angliae
Bryum argenteum
 bimum
 caespiticium
Buxbaumia aphylla
Calliergon cordifolium
 Schreberi
Campylium chrysophyllum
 hispidulum
Catharinaea angustata
 undulata
Ceratodon purpureus
Cirriphyllum Boscii
Climacium americanum
 Kindbergii
Conomitrium Julianum
Cratoneuron
Ctenidium molluscum
Dichelyma capillaceum
Dicranella heteromalla
Dicranum scoparium
Ditrichum pallidum
 tortile
Drepanocladus
Drummondia clavellata
Entodon
- Eurhynchium hians*
 rusciforme
Fissidens incurvus
 Julianus
Fontinalis
Funaria hygrometrica
Georgia pellucida
Grimmia
Hedwigia albicans
Heterophyllum Haldanianum
Hygrohypnum ochraceum
Hylocomium
Hypnum Crista-castrensis
 Haldanianum
 imponens
 molluscum
 Patientiae
 recurvans
Leptobryum pyriforme
Leskea obscura
Leucobryum glaucum
Leucodon
Mnium
Mniumhornum
 punctatum
 punctatum var. elatum
Neckera pennata
Orthotrichum anomalum
 strangulatum
Phascum cuspidatum
Philonotis fontana
Physcomitrium turbinatum
Plagiothecium denticulatum
 striatellum
 sylvaticum
Pogonatum brevicaulis
Pohlia nutans
Polytrichum commune
 ohioense
Pottia truncatula
Ptilium Crista-castrensis
Ptychomitrium incurvum
Pylaisia Schimperii

Raphidostegium
Rhacomitrium aciculare
Scorpidium scorpioides
Sematophyllum recurvans
Sphagnum
Stereodon imponens
Patientiac
reptile
Thelia
Thuidium delicatulum

NEW YORK

paludosum
scitum
Tortella caespitosa
tortuosa
Tortula muralis
Ulota americana
crispa
Webera sessilis
Weisia viridula

A FREAK OF NATURE

BY O. A. FARWELL

While walking through Algonac, Michigan, I observed a peculiar freak of nature which may prove of interest to readers of TORREYA. Two trees of *Populus alba* were growing side by



FIG. 1. *Populus alba*. "Siamese Twins."

side, the lower parts in close contact, and were located on a residential corner lot. The freak consists of a small branch, eight or nine inches in diameter, of one tree piercing the trunk of the other, completely passing through and showing on the